

AMENDMENTS TO THE CLAIMS

The following is a complete, marked up listing of revised claims with a status identifier in parentheses, underlined text indicating insertions, and strikethrough and/or double-bracketed text indicating deletions.

Listing of the Claims

1-19. (Canceled)

20. (Currently Amended) A computer-readable medium having a data structure for managing reproduction of menu data, comprising:

a video data storing area one or more playback units of video data;

a menu data area storing one or more menu data files, at least one menu data file ~~the menu data files~~ including only data for a group of thumbnail pictures, each thumbnail picture corresponding to one of the playback units, the group of thumbnail pictures stored together as a block, ~~the block corresponding to one of the menu data files on the computer-readable medium;~~ and

a menu management area storing menu management information, the menu management information providing an index identifying the thumbnail pictures in the menu data file, the menu data file being a separate file from the menu management information,

wherein the thumbnail pictures in the menu data file are reproduced based on the menu management information.

21. (Canceled)

22. (Previously Presented) The computer-readable medium of claim 20, wherein the menu data area records padding data between at least two of the thumbnail pictures.

23-24. (Canceled)

25. (Previously presented) The computer-readable medium of claim 20, wherein the menu management information indicates a number of the thumbnail pictures stored in the menu data area.

26. (Previously Presented) The computer-readable medium of claim 25, wherein the menu management information provides a starting address and ending address of each thumbnail picture, and a number of starting and ending address pairs indicates the number of the thumbnail pictures stored in the menu data area.

27. (Previously Presented) The computer-readable medium of claim 20, wherein the index to a thumbnail picture is a starting address of the thumbnail picture in the menu data area.

28. (Canceled)

29. (Canceled)

30. (Currently Amended) A method of reproducing menu data recorded on a computer-readable medium, the method comprising:

reading menu management information, one or more menu data files, and one or more playback units of video data from the computer-readable medium, the menu management information providing of menu data, the menu data file including only data for a group of thumbnail pictures stored together as a block, each thumbnail picture corresponding to each playback unit, ~~the each thumbnail picture stored as a block, the block corresponding to one of the menu data files on the computer-readable medium,~~ the menu management information including an index identifying the thumbnail pictures in the menu

data file, the menu data file being a separate file from the menu management information; and

reproducing at least one thumbnail picture in the menu data file based on the menu management information[[],].

31. (Currently amended) A reproduction apparatus, comprising:

a reproducing unit configured to read data recorded on the computer-readable medium; and

a controller configured to control the reproducing unit to read a menu management information, one or more menu data files, and one or more playback units of video data from the computer-readable medium, the menu management information providing information to the menu data files, the at least one menu data file[s] including only data for a group of thumbnail pictures, each thumbnail picture corresponding to one of the playback units, the group of thumbnail pictures stored together as a block, ~~the block corresponding to one of the menu data files on the computer-readable medium,~~ the menu management information including an index identifying the thumbnail pictures in the menu data file, the menu data file being a separate file from the menu management information; and

a decoder configured to ~~reproduce~~ decode at least one thumbnail picture in the menu data file based on the menu management information.

32. (Currently Amended) A method of recording a data structure for managing reproduction of menu data recorded on a computer-readable medium, the method comprising:

recording one or more menu data files in a menu data area of the computer-readable medium, the menu data file including only data for a group of thumbnail pictures, each thumbnail picture corresponding to a playback unit, the group of thumbnail pictures stored together as a block, ~~the block corresponding to one of the menu data files on the computer-readable medium;~~ and

recording menu management information in a menu management area of the computer-readable medium, the menu management information providing an index identifying each thumbnail picture in the menu data file, the menu data file being a separate file from the menu management information,

wherein at least one thumbnail picture in the menu data is reproduced based on the menu management information.

33. (Currently Amended) A recording apparatus, comprising:

a recording unit configured to ~~write~~ record data on a computer-readable medium; and

a controller configured to control the recording unit to record a menu management information, one or more menu data files, and one or more playback units of video data to the computer-readable medium, the menu management information providing an index to menu data, the menu data file including only data for a group of thumbnail pictures, each thumbnail picture corresponding to one of the playback units, the group of thumbnail pictures stored together as a block, ~~the block corresponding to one of the menu data files on the computer-readable medium,~~ the menu management information including an index identifying the thumbnail pictures in the menu data file, the menu data file being a separate file from the menu management information,

wherein at least one thumbnail picture in the menu data file is reproduced based on the menu management information.

34. (Previously Presented) The apparatus of claim 33, wherein the controller controls the recording unit to record the menu data file in the menu data area, the menu data area comprising padding data between at least two of the thumbnail pictures of the menu data file.

35. (Previously Presented) The apparatus of claim 33, wherein the controller controls the recording unit to record the menu management information, the menu management information indicating a number of the

thumbnail pictures stored in the menu data area on the computer-readable medium.

36. (Previously Presented) The apparatus of claim 35, wherein the controller controls the recording unit to record the menu management information providing a starting address and ending address of each thumbnail picture in the menu data file, and a number of starting and ending address pairs indicates the number of the thumbnail pictures stored in the menu data area.

37. (Previously Presented) The apparatus of claim 33, wherein the controller controls the recording unit to record the index to a thumbnail picture, the index including a starting address of the block of menu data for the thumbnail picture in the menu data area.

38. (Previously Presented) The method of claim 30, wherein the menu data area includes padding data between at least two of the thumbnail pictures in the menu data file.

39. (Previously Presented) The method of claim 30, wherein the menu management information indicates a number of the thumbnail pictures stored in the menu data area.

40. (Previously Presented) The method of claim 39, wherein the menu management information provides a starting address and ending address of each thumbnail picture, and a number of starting and ending address pairs indicates the number of the thumbnail pictures stored in the menu data area.

41. (Previously Presented) The method of claim 30, wherein the index to a thumbnail picture is a starting address of the thumbnail picture in the menu data area.

42. (Previously Presented) The apparatus of claim 31, wherein the controller control to reproduce the menu data from the menu data area, the menu data area comprising padding data between at least two of the thumbnail pictures in the menu data file.

43. (Previously Presented) The apparatus of claim 31, wherein the controller control to reproduce menu management information, the menu management information indicating a number of the thumbnail pictures stored in the menu data area.

44. (Previously Presented) The apparatus of claim 43, wherein the controller control to reproduce menu management information, the menu management information providing a starting address and ending address of each thumbnail picture, and a number of starting and ending address pairs indicates the number of the thumbnail pictures stored in the menu data area.

45. (Previously Presented) The apparatus of claim 31, wherein the controller control to reproduce the index to a thumbnail picture, the index to a thumbnail picture including starting address of the thumbnail picture in the menu data area.

46. (Previously Presented) The method of claim 32, wherein the menu data area comprises padding data between at least two of the thumbnail pictures in the menu data file.

47. (Previously Presented) The method of claim 32, wherein the menu management information indicates a number of the thumbnail pictures stored in the menu data area.

48. (Previously Presented) The method of claim 47, wherein the menu management information provides a starting address and ending address of each thumbnail picture, and a number of starting and ending address pairs indicates the number of the thumbnail pictures stored in the menu data area.

49. (Previously Presented) The method of claim 32, wherein the index to a thumbnail picture is a starting address of the thumbnail picture in the menu data area.

50. (Previously Presented) The recording medium of claim 21, wherein the menu data area stores at least one thumbnail picture that is associated with a playback unit of video data recorded in a data area of the recording medium, and the menu data area records padding data between at least two of the thumbnail pictures in the menu data file.

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